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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,453	07/16/2003	Makoto Taniguchi	116602	7702
25944	7590	07/12/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			GONZALEZ, JULIO C	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H1A

Office Action Summary	Application No. 10/619,453	Applicant(s) TANIGUCHI, MAKOTO	
	Examiner Julio C. Gonzalez	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/14/05
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,11,12,17 and 18 is/are rejected.
- 7) ☒ Claim(s) 3-10 and 13-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the chargeable storage element disclose in claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any

required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 discloses a “chargeable storage element....connected to the power supply in parallel”. Respectfully, claims 1 and 11, still by the language disclosed, may imply that the storage element and the power supply are two different components.

It would be more clear and more consistent to call the power supply, “storage element”, since such elements may be the same component or call the storage element, “power supply”, whichever is preferred by the Applicant.

In claim 17, it is not clear what is meant by “both of the power supply and the storage element are formed by a single battery”. There are two power supply plus a storage element?

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nowakowski (US 4,516,066) in view of Iwatani et al (US 6,313,613).

Nowakowski discloses a control apparatus for a vehicle (column 1, line 2) having a generator (column 1, line 58) with a stator winding 12, a field winding 14 and being driven by an engine (column 1, line 63). Also, it is disclosed that there is a switching element 44 configured to electrically connect and disconnect a current path between the field winding 14 and a power supply (storage element) (column 3, lines 13, 14; column 2, lines 50-55, 58, 59). Moreover, a storage element 30 is disclosed and a regeneration element 76, 78, 80, 82, 32 (see figure of Nowakowski) configured to provide the storage element 30 (power supply) with current flowing through the field winding when the switching element 44 is turned off (column 3, lines 25 – 28, 37 – 40; column 3, lines 28 – 35).

However, Iwatani et al does not disclose explicitly that a power supply supplies current to excite a field winding.

On the other hand, Iwatani et al discloses for the purpose of efficiently reducing the load of a vehicle engine, a generator 1 being excited by field winding 102, a single power supply 8 connected to an output terminal of the generator 1 (see figure 1) and the power supply 8 provides a current to the field winding 102 (column 1, lines 48-50; column 4, lines 38-40, 62-64). Moreover, it is disclosed that the power supply 8 is chargeable (column 2, lines 19, 20) and switches are used to turn on/off the power being supplied to the field winding (column 2, lines 11-14).

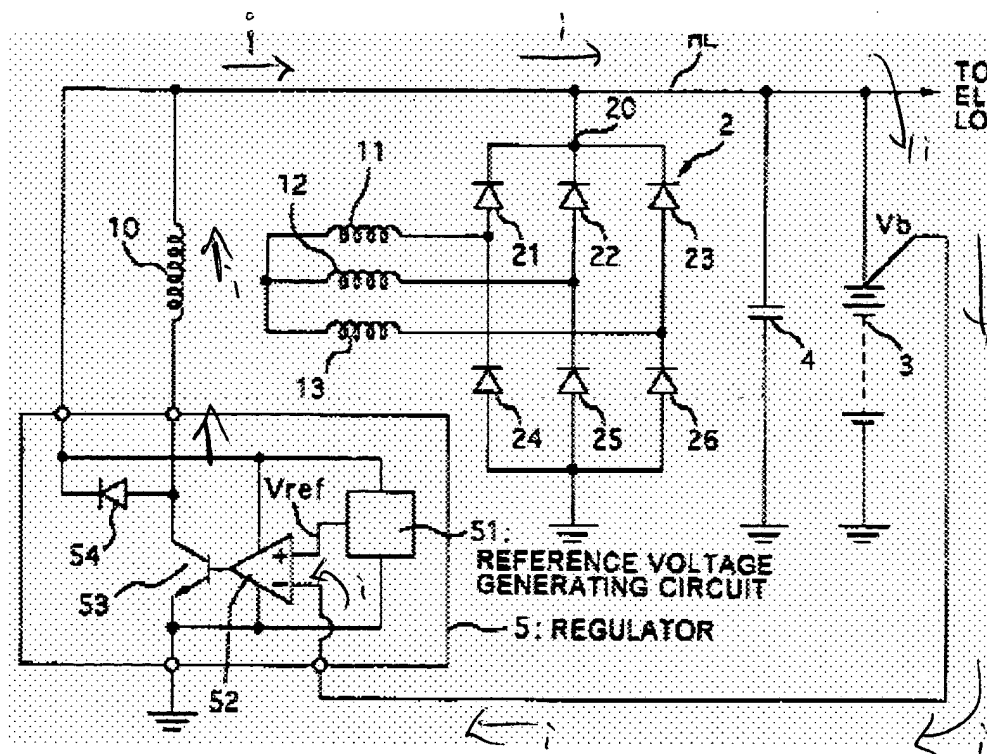
It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a control apparatus for a vehicle as disclosed by Nowakowski and to modify the invention by having a power supply connected to an output terminal and the battery providing current to the field winding for the purpose of efficiently reducing the load of a vehicle engine as disclosed by Iwatani et al.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nowakowski and Iwatani et al as applied to claim 1 above, and further in view of Kusase et al (US 5,780,996).

The combined control apparatus discloses all of the elements above.

However, the combined apparatus does not disclose that a switching element is used such that the current flowing through the field winding is that same in a current flowing direction.

On the other hand, Kusase et al teaches for the purpose of increasing the efficiency of alternators that it is known to have switches 7, 53, between a field winding 10 and power supply 3 (storage element) and being capable of having the same current flowing direction (see figure 4).



It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined control apparatus for a vehicle as disclosed above and to have the same current flow through the field winding from a power supply to a storage element (power supply) for the purpose of increasing the efficiency of alternators as disclosed by Kusase et al.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nowakowski and Iwatani et al as applied to claim 1 above, and further in view of Bluemel et al (US 6,329,797).

The combined control apparatus discloses all of the elements above. However, the combined control apparatus does not disclose having a storage element electrically connected to a power supply in parallel.

On the other hand, Bluemel et al discloses for the purpose of reducing eddy current losses, a storage element 24 connected to the power supply 28 in parallel (see figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined control apparatus as disclosed above and to modify the invention by having a storage element connected in parallel to a power supply for the purpose of reducing eddy current losses as disclosed by Bluemel et al.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nowakowski, Iwatani and Bluemel et al as applied to claim 11 above, and further in view of Kusase et al.

The combined control apparatus discloses all of the elements above. However, the combined apparatus does not disclose that a switching element is used such that the current flowing through the field winding is that same in a current flowing direction.

On the other hand, Kusase et al teaches for the purpose of increasing the efficiency of alternators that it is known to have switches 7, 53, between a field winding 10 and power supply 3 (storage element) and being capable of having the same current flowing direction (see figure 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined control apparatus for a vehicle as disclosed above and to have the same current flow through the field winding from a power supply to a storage element (power supply) for the purpose of increasing the efficiency of alternators as disclosed by Kusase et al.

Allowable Subject Matter

9. Claims 3-10 and 13-16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

With respect to claims 3, 7, 13, the prior art fails to disclose that the switching element is provided with a first switch placed to connect to one terminal of the field winding and the positive terminal of the power supply and a second switch placed to connect to the other terminal of the field winding and the negative terminal of the power supply and the regeneration element is provided with a first diode placed to connect to the one terminal of the field winding and the negative pole terminal of the storage element and a second diode placed to connect to the other terminal of the field winding and the positive pole terminal of the storage element.

With respect to claims 4, 8 and 14, the prior art fails to disclose that the switching element is provided with a first switch placed to connect to one terminal of the field winding and the positive terminal of the power supply and a second switch placed to connect to the other terminal of the field winding and the negative terminal of the power supply and a regeneration element is provided with a third switch placed to connect to the one terminal of the field winding and the negative

pole terminal of the storage element and a fourth switch placed to connect to the other terminal of the field winding and the positive pole terminal of the storage element and an on/off control element configured to bring the third and fourth switches into an off state when the first switches are in a on state.

With respect to claims 5, 6, 9, 10, 15 and 16, such claims are dependant on claims 4, 8 and 14.

Response to Arguments

10. Applicant's arguments with respect to claims 1, 2, 11, 12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the

advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is 571-272-2024. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Julio C. Gonzalez
Examiner
Art Unit 2834

Jcg

July 7, 2005


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